Student Name: **Student id:** **Sect #:** **Ser#:**

University of Bahrain College of Information Technology
Department of Computer Science

ITCS242: ASSEMBLY LANGUAGE PROGRAMMING **Quiz #3**: Arithmetic
****

QUESTION ONE: Assume that *f1, f2,* and *f3* are predefined signed bytes. Write the needed instructions to calculate the value of *f* as shown below and display the value of *f* at the beginning of a new line in signed decimal. Define *f* as needed. (Not allowed to change *f1, f2, and f3*).

*f = (f1 %f2) – (f2 * f3)*

```
Define f as needed.     f       sdword      ?
        movsx           ax, f1
        idiv            f2
        movsx           ecx, ah
        mov             al, f2
        imul            f3
        movsx           eax, ax
        sub             ecx, eax
        mov             f, ecx
        call            crlf
        mov             eax, ecx
        call            writeint
```

QUESTION TWO: What would be in the AX register after executing the following code?
Your answer MUST be in HEXADECIMAL

```
MOV     AX, 2FA6H
MOV     BX, 60A0H
IMUL    BH
```

AX = ***DE 40*** *H*

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QUESTION ONE: Assume that *f1, f2,* and *f3* are predefined signed bytes. Write the needed instructions to calculate the value of *f* as shown below and display the value of *f* at the beginning of a new line in signed decimal. (Not allowed to change *f1, f2, and f3*).

*f = (f1 * f2) – (f1 /f2)*

```
Define f as needed.     f       sdword      ?
        mov             al, f1
        imul            f2
        movsx           ecx, ax
        movsx           ax, f1
        idiv            f2
        movsx           eax, al
        sub             ecx, eax
        mov             f, ecx
        call            crlf
        mov             eax, ecx
        call            writeint
```

QUESTION TWO: What would be in the AX register after executing the following code?
Your answer MUST be in HEXADECIMAL

```
MOV     AX, 7A50H
MOV     BX, 9EC0H
IMUL    BH
```

AX = ***E1 60*** *H*